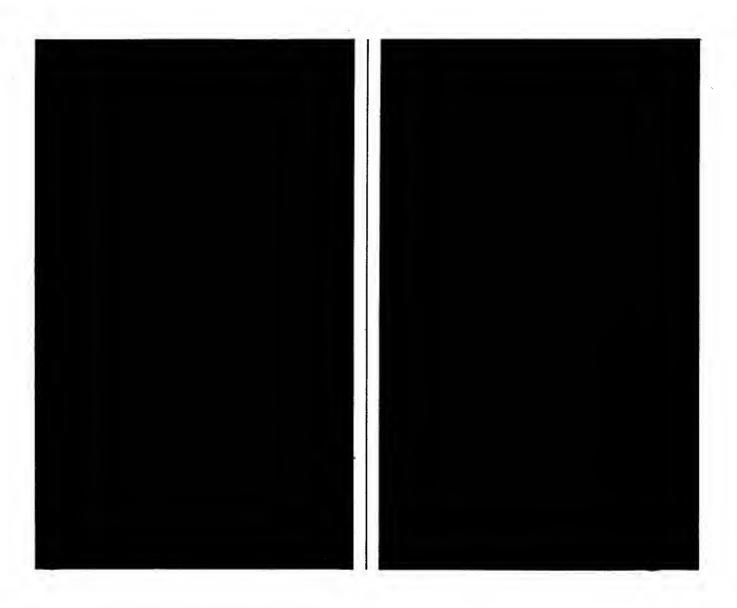
Service Manual Integrated Stereo Amplifiers

430A/410A



SCOTT.
The Name to listen to.

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CAUTION NOTICE

The following safety precautions must be followed to assure continued reliability and safety against fire and shock hazard:

- 1. Replacement parts used during servicing of this appliance must have identical characteristics as those offered and recommended by H. H. Scott, Inc.
- 2. A dielectric test is to be performed on each appliance following the re-assembly and before returning the unit to the custmer.
- 3. The dielectric test to be performed on H. H. Scott, Inc. electric components serviced in the United States and Canada for use in these countries shall consist of not less than the following:*
 - 1) A dielectire tester designed to supply not less than 1100 volts at 60Hz and employing leakage current indicator(s), is to be used.
 - 2) The tester is to be connected per the instructions enclosed with the instrument, or as follows:
 - a. The tester is connected to the power line receptacle and the power switch is turned on.
 - Sufficient time is allowed for the tester supply to stabilize and then the output voltage is adjusted for 1080V.
 - c. Leads of the tester, usually marked GND and HV, are connected between chassis ground and both blades of the male plug of the power cord.
 - d. Switch tester to "test" and observe leakage indicator. Leakage current must not exceed 0.5mA.
- * Dielectric tests made by service personnel in countries other than USA and Canada must use test equipment and procedures specified by the safety agency serving that country.

SPECIFICATIONS 430A (410A)

Minimum Continuous RMS Output Power per channel, both channels driven into 8 Ohms from 20 Hz - 20 kHz with no more than rated THD 45 watts (30 watts) Total Harmonic Distortion [78 IHF rated, at 20 Hz - 20 kHz] 0.08% (0.1%) Intermodulation Distortion [at rated output, 60:7000Hz; 4:1] 0.08% (0.1%) Frequency Response [at 1 watt output, ±1dB] 20 Hz to 20 kHz Power Bandwidth [at -3dB] 10 Hz to 30 kHz (15 Hz to 30 kHz) Damping Factor [at 1 kHz, for 8 Ohm load] Input Sensitivity [for rated output] Phono: 2.5mV Aux, Tuner: 150mV Tape 1 and 2: 150mV Tape 2 DIN Input: 150mV Maximum Input Voltage Phono: 150mV Aux, Tuner: 10V Tape 1 and 2: 10V Tape 2 DIN Input: 10V Signal-to-Noise Ratio [shorted input, IHF A network] Phono, Ref. 10mV: 85dB Aux, Tuner: 90dB Tape 1 and 2: 90dB Tape 2 DIN input: 90dB

Tone Control Range

100 Hz: +7dB 10 kHz: +3.5dB

Bass (100 Hz): ±10dB Treble (10 kHz): ±10dB

Loudness Contour [Volume Control set to -30dB]

1kHz: 75dB Channel Balance [maximum Volume Control] 0.5 dB (0.7 dB)RIAA Tolerance [78 RIAA rated, 20 Hz to 20 kHz] +0.7dB Channel Separation [78 IHF rated] Phono (1 kHz): 60dB (55dB) Aux, Tuner, Accessory Input, Tape 1 and 2, Tape 2 DIN Input (1 kHz): 60dB Tape Recording Output Level [at rated input sensitivity level] Tape 1 Rec: 150mV Tape 2 Rec: 150mV Tape 2 DIN Output: 30mV AC Power Requirement* 220V 50Hz Power Consumption 370W (250W) **Dimensions** 17-3/4"W, 5-1/4"H, 11-3/4"D (17-3/4", 5-1/4", 8-1/2") 430W, 132H, 300D (430, 132, 217) mm Net Weight

* AC Power:

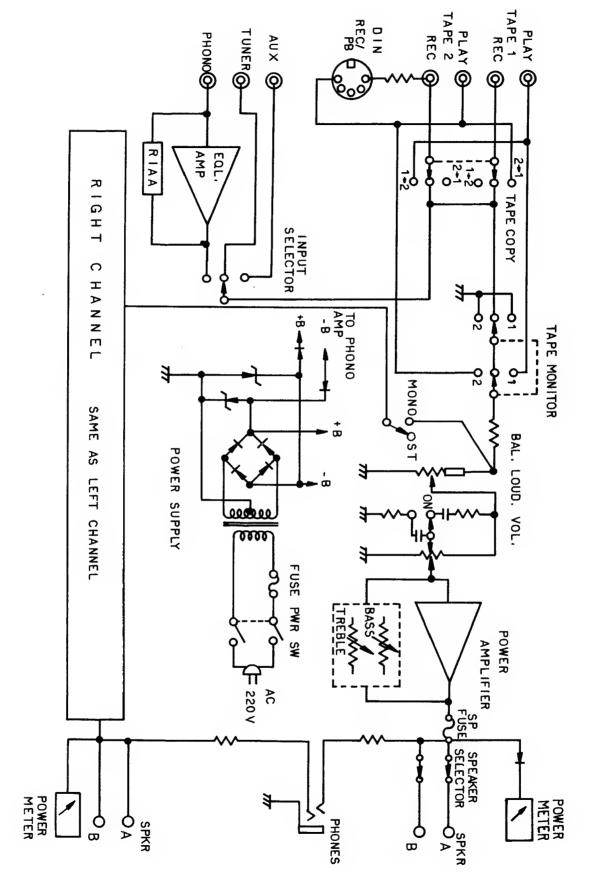
18.9 lbs (15.5 lbs)

8.5 kg (7.0 kgs)

Crosstalk

Units for Great Britain: 240V, 50Hz Units for USA and Canada: 120V, 60Hz Class 2, double isolation system employed

BLOCK DIAGRAM

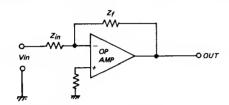


CIRCUIT DESCRIPTION

Design Philosophy on 430A and 410A

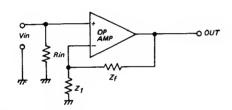
When using a high gain wide band open loop operational amplifiers, it is possible to design a passive network providing a negative feedback to control the amplifier gain and frequency response. In fact it makes easy the reproduction and repititivity of the wanted results.

We can define the gain of such an amplifier as follows.



1) Vo = -Vin· $\frac{Zf}{Zin}$ (Inverting Amp.)





3)
$$V_0 = V_{in} \cdot 1 + \frac{Z_f}{Z_1}$$
 (Non Inverting)
$$Z_{in_C} \cong R_{in} / \frac{Z_{in_0} \cdot G_{openloop}}{G_{closedloop}}$$

Where R_{in} is the input load resistor. Z_{in} is the open loop input impedance multiplied by open loop gain divided by closed loop gain.

Example: If open loop gain is 10,000 (i.e) 80dB) and the closed loop gain is 100 (i.e 40dB). For an amplifier having $Z_{in_0} = 10K$ ohm, the equivalent $Z_{in_0} = R_{in} // 1000K$ ohm.

Phono Equalizer: The phono non inverting amplifier equalizer consists of an operational amplifier with a feedback network to fullfil the RIAA equalizing requirements.

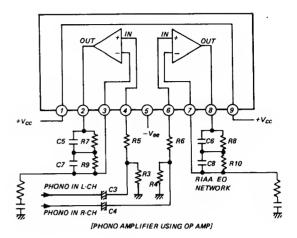
$$Z_f = R8 \text{ // } X_{c6} + R_{10} \text{ // } X_{c8}$$

$$Z1 = R_{12} + X_{c12}$$
where $X_c = \frac{1}{2\pi f \cdot c} = \frac{1}{6.28 f \cdot c}$

$$f = \text{frequency}$$

c = capacitance in Farads R = Resistance in Ohms

The above network provides a gain of 60 at 1kHz and a gain variation as function to the value of Z_f and Z₁ at any given frequency. For example at 100Hz the gain is 265 or +12.9dB referred to 1kHz gain, at 10kHz gain is about 13 or -13.7dB referred to 1kHz gain.



Premain Amplifier

The premain amplifier is an operational amplifier built by discrete components. It is directly coupled to the load (i.e speakers). The high gain open loop is provided by the dual differential amplifiers and the boostrap capacitor. The complementary output drivers/buffers provide a symmetrical output drive.

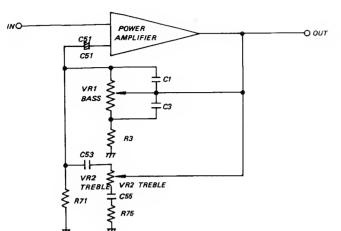
The amplifier is controlled by multiple feedback networks: DC feedback (R93 + R95) on one channel (R94 + R96) on the other are directly coupled between output and negative input. The effect of the DC feedback is for longterm stability and unity DC gain. The effect of this feedback is minor at frequencies over 5Hz. The multipole AC feedback network (with the bass and treble potentiometers incorporated) provides a constant gain with no effective gain variations of tone potentiometers. At 100Hz the bass potentiometer allows gain control of ±10dB. At 10,000Hz the treble potentiometer allows gain control of ±10dB. The amplifier has a current limit network that limits excessive current loading. A fuse is provided to prevent damage to speakers if the amplifier fails.

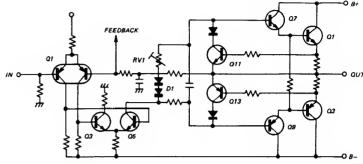
Tone Control

The tone control is a negative feedback type which uses the power amplifier stage as the active element. That is, the gain of the power amplifier stage is controlled by the tone controls circuitry. At 1kHz, the position of the tone controls has little effect on the gain, as C53 impedance is high, removing VR2 from the circuit, and C1, C3 impedance is low, effectively short circuiting VR1.

Bass Control: As the frequency decreases below 1kHz, the impedance of C1 and C3 increases proportionately. Thus at very low frequencies, the gain is mainly determined by the position of the bass control VR1. Rotating VR1 toward R3 will boost the low frequencies, while turning it towards C4 will cut the bass.

Treble Control: At high frequencies, as at 1kHz, VR1 is effectively short circuited. At these frequencies, however C53 and C55 impdeance decreases, so that VR2 be comes the the main control of the amplifier gain. Rotating VR2 towards C53 cuts the treble response.





Power Amplifier

This circuit is an OCL, pure complementary amplifier. The input stage consists of two differential amplifiers (Q1 and Q3/Q5). The first differential amplifier (Q1) is a matched transistor pair in one package providing excellent common mode rejection and low DC offset. Q5 acts as the voltage amplifier providing voltage swing to nearly full plus and minus supply. Current gain is then provided by the fully complementary Darlington pairs of Q7 and Q1 (Power transistor) for the positive swing, Q9 and Q3 (Power transistor) for the negative swing. The output stage bias is set by the double diode D1 and RV1. As previously described, amplifier gain is set by tone control circuitry. The driver and output stage is protected from short circuit and overload by transistors Q11 and Q13, which short out the driving signal when current through the output transistor reaches an excessive level.

Power Supply

The main power supply consists of a full wave bridge rectifier and two 6800µF capacitors. The B+ and B-regulators (zeners, D31 & D32) supply stabilized voltage for the low level circuitry.

Unwanted transients are eliminated by circuitry consisting of Q16 which performs a muting function when the unit is switched ON or OFF.

The base bias of Q16 is given by two different circuits; one normal positive line voltage circuit having a large time constant, and another negative supply voltage circuit having a small time constant (C63/R84). At turn on, the negative voltage is immediately supplied to the base of Q16 because of its smaller time constant, and this makes Q16 cut off. Then C61 is gradually charged up by the normal positive power line voltage and when the charged level is reached to a proper level, the power line switching transistor Q15 is turned on and supplies the power to the differential amplifiers. At turn off, the negative base supply voltage to the Q16 is immediately decreased to zero because of its small time constant, then the base bias is supplied from the positive power line voltage only, and Q16 is turned on immediately, resulting in shorting the Q15 base to the ground and eliminating the supply for the differential amplifiers, stoping amplifier operation immediately.

ADJUSTMENT

Equipment Required

Audio signal generator
DC voltmeter
Speaker load resistors, 8 Ohms, 100W
Digital voltmeter

The following adjustments are the same for both left and right channels.

Bias Adjustment

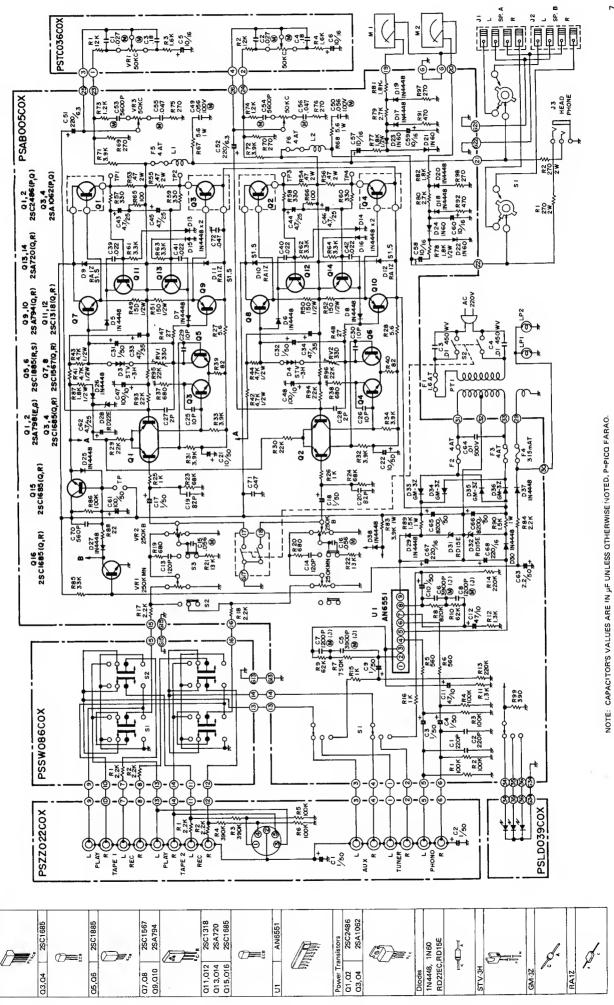
- 1) Connect 8 Ohm resistors to the speaker "A" terminals, and set the Speaker Mode switch to "A" position.
- 2) Turn the Volume control fully counter-clockwise.

- 3) Turn RV1 fully counter-clockwise.
- Set digital voltmeter to most sensitive voltage range.
 Connect probes across TP1 and TP2 (Voltmeter b ias test point, L channel).
 - Turn unit on. Let it idle for 10 seconds.

 Adjust RV1 for 40mV across the resistors.
- 5) Perform the same procedure for the right channel, except measure voltage across TP 3 and TP4 (Voltmeter bias test point, R channel).
 - Adjustment is made with RV2.
- 6) Leave the amplifier on for about 30 minutes, then recheck measurement. A tolerance of ±25% is acceptable. Readjust if necessary.

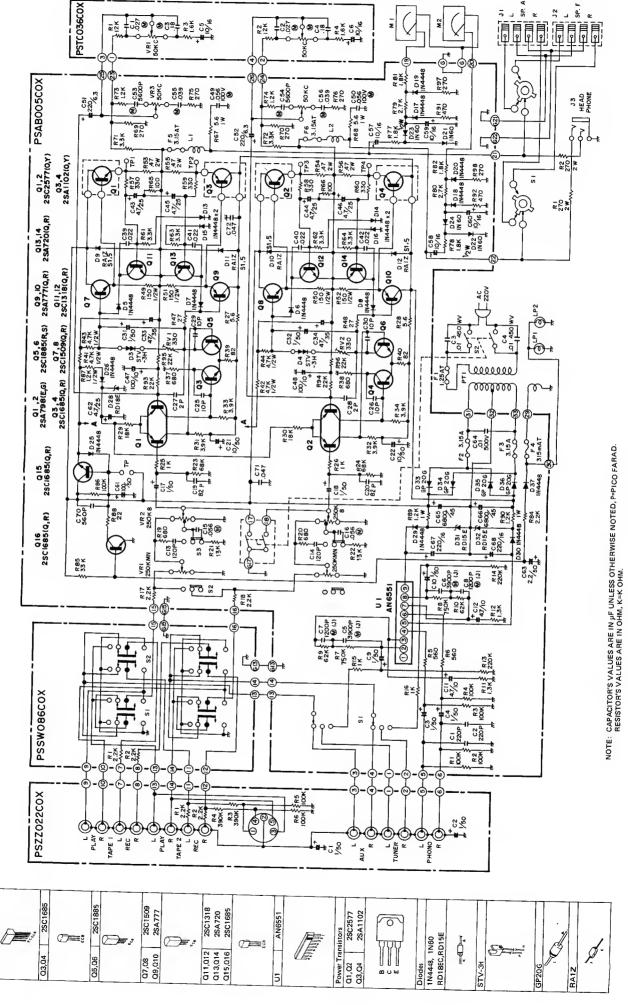
2SA798

01,02



NOTE: CAPACITOR'S VALUES ARE IN JF UNLESS OTHERWISE (VOTED, P-PICO FARAO. RESISTOR'S VALUES ARE IN OHM, K-K OHM.

Q1,02 2SA798



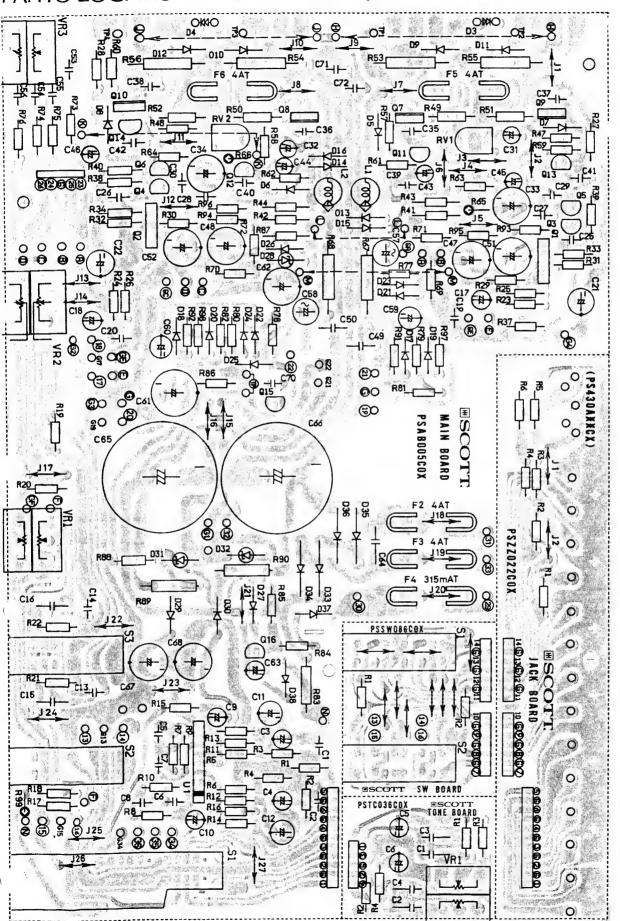
LED 3

LED 1

PSZZ022COX, Jacks

PSSW086COX, Switch

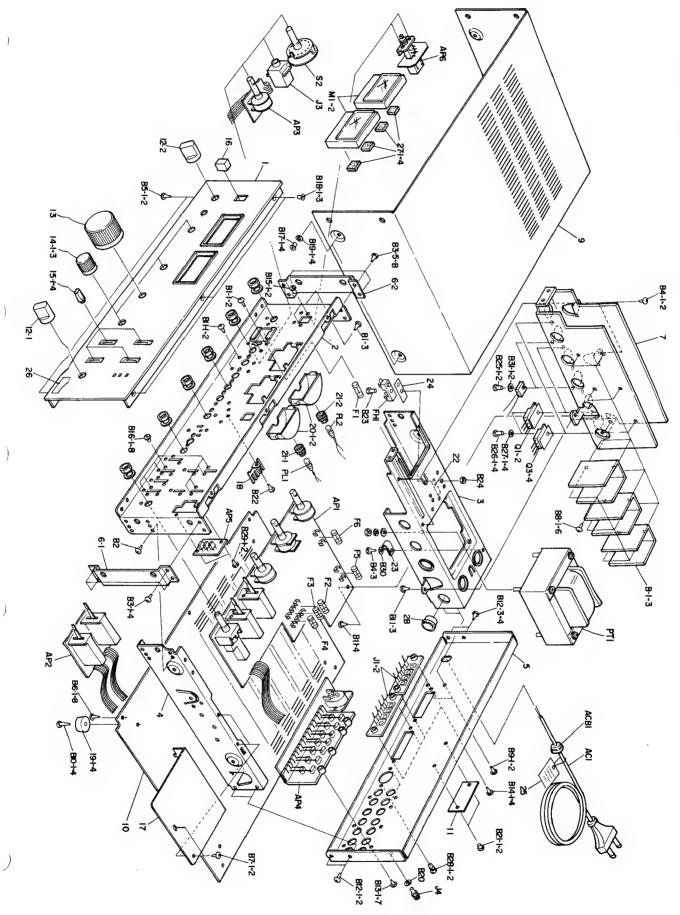
PARTS LOCATION DIAGRAM: 430A/410A



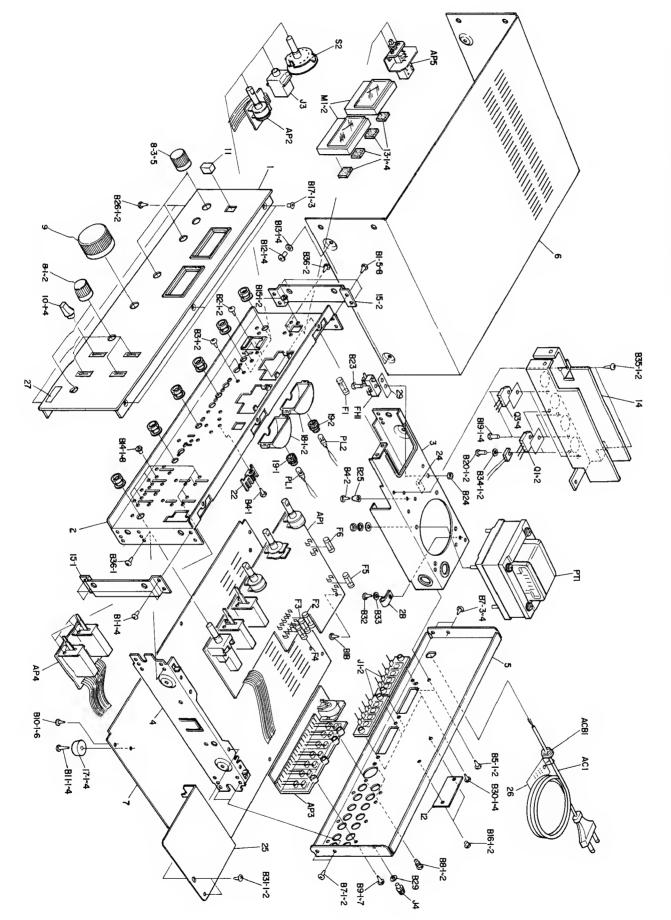
PSTC036COX, Tone

PSAB005COX, Main P.C. Board

EXPLODED VIEW: 430A



EXPLODED VIEW: 410A



REPLACEMENT PARTS LIST: 430A

EXPLOD		1	STOCK NO					
REMAR	100.370	PART, STOCK NUMBER	PART NAME	SPECIFICATIONS	SYMB	OLIC OR I	EXPLODED VIEW NO.	QTY
1	ACAC 03 SFE4		AC CORD ASSY		AC 1			
2	APSL DO39AA		P.W.BOARD ASSY.					<u> </u>
3	APSSW0884A		P.H.BOARD ASSY.			1		<u> </u>
4	APS 430 A* E1		P.W.BOARO ASSY.			<u>i</u>		-
5	CEAGO104LX		ELYT. CAPACITOR	1MFD 50V	C1	_ C.Z	*	<u> </u>
6	CNST103MAN		OIL PAPER CAP.		C 3	C 4	7	<u> </u>
7	G430A*E40?		WIRES KIT			- 1	<u> </u>	ļ
8	QTA1062XAN		TRANSISTOR	25A1062 P+Q-RANK	93	04		
9	QTC2486XAN		TRANSISTOR	ZSCZ486 P.Q-RANK	Q1	Q2		-
10	RG2ANJ2718		M-AXIDE FILM R.	2W 270 DHM 5%	R 1	R 2		
11	SR2204107T		ROTARY SHITCH		52			
12	TP8835001Y		PWR. TRANSFORMER		PTI			1
13	VM 2 70N B004		BUSHING		ACRL			
14	VX432 VL002		C-COVER		Z Z 1	222		-
15	YHF 1P 2001Z		FUSE HOLDER		FHI			-
16	¥JS03\$016Z		PHONE JACK		J٦			
17	YT0 01 S002U		TERMINAL		J 4			1
18	YTS04S007U		TERMINAL		J1	JZ		ļ
19	ZFBQ162014		FUSE		F 1			
20	ZF8Q32101A		FUSE		F4			
21	ZFRQ40203A		FUS F		F2	F3	F5 F6	1
22	ZM02050K01		METER 78A7OR		M1	M2		
23	ZPA 148 103U		LAMP		LP1	LPZ		

EXPLODED	PART NAMI	E PART COIDE	STOCK NO.						
ASSEMBLY	MECH. FLEMEN	TS AARBRAFSCL2	1	appoints A Tlous	T				Q'TY
REMARKS	PART CODE	PART, STOCK NUMBER	PART NAME	SPECIFICATIONS	SYMBO	LIC OR EX	PLODED	VIEW NO.	USED
1	AM430 4**01		ESCUTCHEON ASSY		_ ı		1		↓
2	BNHCL3 ONBN		NUT	M3. BS-NI. THIN-TYPE	B24			<u> </u>	<u> </u>
3	BRP3055QNB		PAN HEAD RIVET		828-1	828-2			2
4	BRU2455XAJ		THIN HD RIVET	2.4 X 5.5 ALMINUM	821-1	821-2			2
5	BSPB3009NN		BIND HEAD SCREW	[+]BIT, M3 X 8 S-N[B25-1	825-2			2
6	RSPB5010NB		BINO HEAD SCREW	(+)BIT. M5 X 10 S-BLACK	817-1	817-2	B17-3	817-4	4
7	BSPC3C06NZ		CEMS SCREW	(+)B[T+ M3 X 6 S-ZNCR	B15-1	815-2	B16-1	B16-2	1.0
8					816-3	816-4	816-5	B16-6	
9					B16-7	B16-8	<u>i</u>	-	↓
10	BSPC3010N7		CEMS SCREW	(+)BIT. M3 X 10 S-ZNCR	B26-1	826-2	B26-3	826-4	4
11	9SPP3Q10NP		PAN HEAD SCREW	(+)BIT, M3 X 10 PLASTIC	823		1	<u> </u>	
12	BTPL 3008BB		NAIL TAP SCREN	(+)BIT, M3 X 8 \$-BLACK	B12-1	812-2	812-3	812-4	4
13	BTPP300RAB		PAN TAP SCREW	(+)BIT. M3 X B S-BLACK	813-1	B13-2	8:3-3	B1 3-4	1
14					813-5	813-6	B13-7	B14-1	<u> </u>
15					814-2	814-3	B14-4		
16	BTPS300BTZ		FLAT TAP SCREW	(+)BIT, M3 X B S-ZNCR (TAP TITE)	818-1	818-2	818-3		3
17	BTPW300888		BRAS. TAP SCREW	(+)BIT, M3 X B 5-BLACK	89-L	R9-2			2
18	8TPW300BRJ		BRAS. TAP SCREW		B22		!		1
19	RTPW300BRZ		BRAS. TAP SCREW	(+)BIT, M3 X 8 S-ZNCR	B1-1~3	84-1~3	85-1~2	8 2	29
20				_	B29-1	B29-2	83-1~8	86-1_	

EXPLODED ASSEMBLY	PART NAMI		STOCK NO.						
REMARKS		PART, STOCK NUMBER	PART NAME	SPECIFICATIONS	SYMBO	LIC OR E	XPLODED	VIEW NO.	Q'TY USED
1					86-2	86-3	86-4	B6-5	
2					B6 -5	86-7	86-8	87-1	
3					B7-2			ļ	
4	BTPW30104Z		BRAS. TAP SCREW	(+)BIT. M3 X 10 S-ZNCR	B11-1	B11-2	B11-3	811-4	10
5					P.8-1	88-2	88-3	88-4	
6					88-5	R8-6		<u> </u>	
7	BTPW3010BZ		ARAS. TAP SCREW	(+)BIT, M3 X 10 S-ZNCR	810-1	B10-2	810-3	810-4	4
В	RWM30A08SN		FLAT L. WASHER	FLAT LARGE: 3 M/M S-NI	B 20	830			2
9	RW430705SN		FLAT L. WASHER	FLAT LARGE, 3 M/M S-NI	R27-1	B27-2	B27-3	B 27-4	6
10					831-1	831-2			
11	8W450C0858		FLAT L. WASHER	FLAT LARGE, 5 M/M S-BLACK	B19-1	B19-2	B19-3	819-4	4
12	489725 E067		REAR PANEL		5				-
13	MB 972 SL007		FRONT PANEL		2				1
14	MC37152002		RRACKET		6-1	6-2			
15	MC8655L002		CHASSIS		3			<u> </u>	
16	ML 3315 5001		TERMINAL		18				1
17	ML7655L002		SHIFLD		17	-			1
18	MN276XA020		KNOB		14-1	14-2	14-3	ļ	3
19	MN376AA019		KNOB RS		12-1	12-2			2
20	MN386XA024		KNOB		13				
21	M59865L004		BOTTOM PLATE		10				
22	MU653 AX001		MEAT SINK		8-1	8-2	8-3		3
23	MU8525L103		SIDE BRACKET R		4	1			با

EXPLODED	PART NAM	E PART CODE	STOCK NO.						
ASSEMBLY	MECH. FLEMEN	TS AARARAFSCL 2							
REMARKS	PART CODE	PART, STOCK NUMBER	PART NAME	SPECIFICATIONS	SYMB	DLIC OR E	XPLODE	VIEW NO.	Q'TY USED
1	MUB7540001		HEAT SINK		7			†	<u></u>
2	MU8975X021		COVER		9				1
3	MVL 635GF0L		SER.ND. PLATE		11				
4	VR532 4 W001		LAMP HOUSE		20-1	20-2			, ,
5	VF177FR001		BUSHING		28				
6	VM165RX003		HOLOFR		21-1	21-2			<u></u>
7	VM280E8001		F 00T		19-1	19-2	19-3	1 9-4	4
8	VN2705 X001		POW KNOB	***	16	1			
9	VN3605X001		KNOR		15-1	15-2	15-3	15-4	4
10	VS 227R B001		SHEET	P 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	27-1	27-2	27-3	27-4	4
11	V5325VN001		BARRIER		24				1
12	V5417NN003		CLAMPER.		23				1
13	VVL311GF54		FUSE LABEL		22				1

E	EXPLODED ASSEMBLY	PART NAM	PART CODE	STOCK NO.					
High Li	REMARKS	PART CODE	PART, STOCK NUMBER	PART NAME	SPECIFICATIONS	SYMBO	LIC OR EXI	PLODED VIEW NO.	Q'TY US ED
1		ME97FAA104		ESCUTCHEON		LA			
2		VK 1325 X004		BUSH LEVER		ıc-ı .	10-2		
3		VK1325X007		RUSH		D-1	10-2		a
4		VK 1335 X001		BUSH POWER	ļ	LE.			
5		VK1655 X004		METER FRAME	1	B-1	18-2		
6									
7					,				

EXPLODE0	PART NAM		STOCK NO.							
REMARKS	P.W. BOARO AS		PART_NAME	Ş	PECIFIC	ATIONS	SYMB	OLIC OR I	EXPLODEO VIEV	NO. QTY USED
1	CCFB121K0T		GERAMIC CAP.	120PF	50 Y	-10, +10% SL	C 13	C14		2
2	CCFB221K0T		CERAMIC CAP.	220PF	50V	-10. +10% SL		C2		
3	CCGB10000T		CERAMIC CAP.	SL 10PF	50¥	-0.5. +0.5PF	C 2 5	C 2 6	C29 C3	0 4
4	CCGB820K0T		CERAMIC CAP.	82PF	50V	-10. +10% SL	C19	C20		
5	CEAB221ALX		FLYT. CAPACITOR	220MFD_	6.3V		C51	C52		2
6	CEADIOONLX		ELYT. CAPACITOR				C57	C5 B	-	2
7	CEAD221 ALX		ELYT. CAPACITOR	220MFD	167		C67	C68		
8	CFAE47OALX		FLYT. CAPACITOR	47 MFD	25 V		C 6 2			
9	CEAF470ALX		ELYT. CAPACITOR	47MFD	35 V		C33	C34		
10	CFAG101ALX		FLYT. CAPACITOR	100 MF0	500		C 61			1
11	CFQ 1G8 2202		ELYT, CAPACITOR				C65	C66		
12	CEVC101ALX		ELYT, CAPACITOR		*,-		C 4 7	C 4 B		
13	CEVC470ALX		ELYT. EAPACITOR				C11	C12		
14	CEVD100ALX		ELYT. CAPACITOR				C59	C 60		
15	CEVEAR TALX		ELYT. CAPACITOR				C43	C44	C45 C4	
16	CEVG010ALX		FLYT. CAPACITOR				C10	C17	C18 C3	
17	<u> </u>						C31	C32	C4 C5	<u>'</u>
1B	CEVG1 00ALX		ELYT. CAPACITOR				C 2 1	C22		
19	CEVG2R ZALX		ELYT. CAPACITOR				C63			
20	CKDE103PEM	-	CERAMIC CAP.	0.01MFD	_500V	-0, +103% E	C64			
21	CKFR223ZFT		CERAMIC CAP.	0.022MF0	50V	-20, +80% F	C 3 9	C40	C41 C4	14
22	CKF8473ZFT		CERAMIC CAP.	0.047MFD	50V	-20, +83% F	C71	C72		
23	CKG856 LKBT		CERAMIC CAP.	5 60 PF	50 y	-10, +10% B	C70			

_		PART NAM	E	PART CODE	STOCK NO.								
A:		P.W.BDAPD AS	SY.	AP SABOOSED			SPECIFIC	ATIONS	SYMB	OLIC OR I	EX PLODE (VIEW NO.	QTY
I	REMARKS	PART COOE	PART	, STOCK NUMBER	PART NAME				0.140	T.		1	USED
1		COMB122JEH			MYLAR CAPACITOR	1200PF	50V	-5, +5%	C 7	СВ		_	-
2		CQMB392JEH			MYLAR CAPACITOR	3900PF	50 V	-5. +5%	C 5	C6			4
3		CQMB 47 3KTH			MYLAR CAPACITOR	0.047MFD	50V	-10, +10%	C 5 5	C 5 6	1		
4		COMB562KTH			MYLAR CAPACITOR	5600PF	50V	-10. +10%	C53	C54		<u> </u>	
5		CQMB563KTH			MYLAR CAPACITOR	0.056MFD	50V	-10, +10%	C15	C16			
6		COMC563KEH			MYLAR CAPACITOR				C49	C50			<u> Т</u>
7		LA3LF1 024A			CHOKE COIL					L2			
В		MW201B S001			TERMINAL								2.
9		MW 401C X006			SHOT JAMPER								2.4
10		PSABOO5COX			PRINTED W.BOARD						-		↓
11		PS430A*+CX			PRINTED W.BOARD	ļ							نــــــــــــــــــــــــــــــــــــــ
12		ODG1N6 OXXT	<u> </u>		GERMANIUM OLODE	NO-RANK			D21	022	023	024	
13		QO SGM3 ZXXD			SILICON OLOGE	GM32 NO-RA	NK		D33	034	035	D36	<u> </u>
14		QOSN4448XZ			SILICON OTODE	IN444B VRM	=100V NO	D-RANK	D13	014	015	D16	1
15								· <u>-</u>	017	D18	019	020	╀
16									025	026	027	029	
17									030	037	038	05	↓
18								*··	06	07	D8		
19		QOSRAL ZXXD			SILICON OTODE	RAIZ NO-RA	ŊK		010	011	012	09	 '
20		QOZRD15ECA			ZENER DI DOE	ROISE(C) V	Z=14.7-1	L6.5 C-RANK	031	032			<u> </u>
21		ODZROZ ZECA	\perp		ZENFR DIODE	ROZZEC	V Z= 22-2	24.5 C-RANK	028				<u> </u>
22	2	OQM065518N			1.C.								<u> </u>
2:	3	OT40720XBN			TRANSI STOR	25A720 Q.R	-R A NK		013	014			نــــــــــــــــــــــــــــــــــــــ

EXPLODED	PART NAM		PART CODE	STOCK NO.						
REMARKS	PART COOE		APSABOOSED STOCK NUMBER	PART NAME	SPECIFICATIONS	SYM8	OLIC OR I	EXPLODE	VIEW NO.	QTY
1	QT 40794X4N			TRANSISTOR		910	09			2
2	OTA0798XEE	<u></u>		TRANSISTOR	25A798 F.G-RANK BREAK VOLTAGE=70V	01	02			
3	QTC1318XDN			TRANSISTOR	2SC1318 Q.R-RANK	011	012			
4	OTC1567XAN	ļ		TRANS ISTOR		97	08			2
5	QTC1685XAN			TRANSISTOR	2SC1685 Q+R-RANK	915	016	Q3	04	<u>ل</u> ,
6	OTC18R5XAN	L		TRANSISTOR	2SC1885 R.S-RANK	05	Q6			2
7	Q V E S T V 3 H X D			VARISTOR	STV-3H 0.Y-RANK (VF:1.60V-1.74V)	03	04			2
8	RD25PJ102X	<u> </u>		CARRON FILM P.	0.25W 1K OHM 5%	R15	R16	R25	R 26	4
9	PD25PJ104X			CARBON FILM R.	0-25W 100K GHM 5%	R1	R2	R3	R4	5
10						R86		1		
11	RD25PJ122X			CARBON FILM R.	0.25W 1.2K DHM 5%	R73	R74			2
12	PD 25PJ 132X			CARBON FILM R.	0.25W 1.3K OHM 5%	R11	R12			2
13	P025PJ133X			CARBON FILM R.	0.25W 13K OHM 5%	R21	R22			2
14	R025PJ1R2X			CAPBON FILM R.	0.25W 1.8K DHM 5%	R81	R 82			2
15	RD25PJ220X			CARBON FILM R.	0.25W 22 OHM 5%	R8 B				1
16	R025PJ222X			CARBON FILM R.	0.25W 2.2K OHM 5%	R17	R18	R84		3
17	R025PJ223X			CARBON FILM R.	0.25 W 22K OHM 5%	R29	R30	R 93	R 94	6
18						R95	R96			
19	RD 25PJ 224X			CARBON FILM R.	0.25 W 220K DHM 5%	R13	R14			2
20	RD25PJ271X			CARBON FILM R.	0.25W 270 OHM 5%	R69	R70	R75	R76	6
21						R 9 7	898			
22	R025PJ272X			CARBON FILM R.	0.25W 2.7K DHM 5%	R79	R80			2
23	PD 25PJ 332X			CARBON FILM R.	0.25W 3.3K OHM 5%	R61	R62	R63	R64	4

EXPLODED	PART NAM		STOCK NO.						
REMARKS		PART, STOCK NUMBER	PART NAME	SPECIFICATIONS	SYME	OLIC OR	EXPLODE	D VIEW NO.	Q°T US1
1	RO 25P J 333X		CARRON FILM R.	0.25 H 33K OHM 5%	R 8 5				
2	RD25PJ392X		CARBON FILM R.	0.251 3.9K OHM 5%	R31	R32	R33	R34.	<u> </u>
3					R71	R72			1
4	RD25PJ471X		CARSON FILM R.	0.25H 470 OHM 5%	R91	R92			_
5	RD25PJ561X		CARRON FILM R.	0.25W 560 0HM 5%	R 5	R6			_
6	PO 25PJ 623X		CARBON FILM R.	0.25W 62K 0HM 5%	RIO	29			ot
7	PD25PJ68LX		CARBON FILM R.	0.25W 680 0HM 5%	R19	R20			
В	RD 25P J 683 X		CARRON FILM R.	0.25W 68K OHM 5%	R23	R24			<u> </u>
9	RD25P J 754X		CARBON FILM R.	0-25W 750K OHM 5%	R7	R 8			_
10	RD25TJ270X		CARRON FILM R.	0.25W 27 OHM 5%	R47	R48			
11	RD25TJ331X		CARRON FILM R.	0.25¥ 330 OHM 5%	R57	R58	R59	R60	<u> </u>
12	RD25TJ5R6X		CARBON FILM R.	0.25W 5.6 OHM 5%	R27	R28			
13	PO25TJ681X		CARBON FILM R.	0.25W 680 OHM 5%	R37	R 38			_
14	RD25T JR20X		CARBON FILM R.	0.25W 82 DHM 5%	R39	R40			_
15	RD25VJ101X		CARBON FILM R.	0.25W 100 DHM 5%	R65	P66			_
16	RO25VJ391X		CARBON FILM R.	0.25# 390 OHM 5%	R99				<u> </u>
17	RF02SKR47A		WIRE WOUND R.	2W 0.47 OHM 10%	R53	R 54	R55	R56	
18	RGHANJ1518		M-OXIDE FILM R.	1/2 W 150 OHM 5\$	R49	R50	R51	R52	
19	RGHANJ 1828		M-DX10E FILM R.	1/2W 1.8K OHM 5%	R77	R78			
20	RGHANJ472R		M-OXIDE FILM R.	1/2W 4.7K OHM 5%	R41	R 42	R43	R44	
21	RGHARJ 1R28		M-OXIOE FILM R.		R87				
22	RG LARJ 152B		M-OXIDE FILM R.		R89	R90			
23	PG14RJ392R		M-DXIDE FILM R.		R83				

EXPLOSED	PART NAM	E PART CODE	STOCK NO.					
ASSEMBLY	P. W. ROARD AS	SY. APSABOOSED	<u> </u>	SPECIFICATIONS	avuna	LIC OR EV	PLODED VIEW NO.	QTY
REMARKS	PART CODE	PART, STOCK NUMBER	PART NAME	SPECIFICATIONS	SIMBU	LIC OR EX	PLODED VIEW NO.	USE
	RPJN833102		SEMI-FIXED VR.		RV1	RV2		
	RVQA254805		VR.		VR.2			4
	PVQA254¥04		VR.		VR1	-		┷
	RVQ4503N02		VR.		VR3	-		-
5	RX LARJ 5R 6B		M-OXIDE FILM R.		R67	R68		+
5	SH040305ZB		SLIDE ROTARY SW		S1			+
7	SL020226ZN		LEVER SWITCH		5.2	53		+
8	W5G916JJJJ		SHIELDED WIRE		N06	-	 	+
9	WTG014EFXX		SOLID WIRE		NO 1 O			-
10	WTG510EFXX		SOLIO WIRE		NO11			-
11	WTG608EFXX		SOLIO WIRE		ND12	+	 	+
12	WTG710EFXX		SOLID WIRE		NO 13	-		-
13	WTG815EFXX		SOLID WIRE		NO14	1	 	+
14	WTHO13ELXX		SOLIO WIRE		NO 16	NO17	-	+
15	WTHO24FLXX	ļ	SOLID WIRE		NO18		 	-
16	WTJN18EMXX		SOL 10 WIRE		NO 15		 	+-
17	WTM909EFXX		SOLID WIRE		ND 9	+		+
18	WTM910EFXX	ļ	SOLID WIRE		NO8_			+
19	WWF217JXJJ	-	SHIELDED WIRE		NO 1	-		+-
20	WWF413JXJJ		SHIFLDED WIRE		NO2	+		+
21	WWF518JXJJ		SHIFLDED WIRE		NO3			+-
22	WWF618JXJJ	-	SHIELDED WIRE		NO4	÷		
23	YHEOPOOOLZ		FUSE HOLDER		FH2-1	FH2-2	FH3-1 FH3-2	

EXP	LODED	PART NAM	E PART CODE	STOCK NO.					
	EMBLY EMARKS	PART CODE		PART NAME	SPECIFICATIONS	SYMBO	LIC OR E	XPLODED VIEW NO.	Q'TY US ED
1		P SLD 03 9C 0X		PRINTED. W. BOARO				-	1
2		QL RL N2 17RN		L.F.O.	LN217RP RED	LEDI	LED2	LED3	1 3
3		WTGO17BKXX		SOLID WIRE		NOI			
4		WTG117BKXX		SOLID WIRE		NO2			<u> </u>
5		WTG217BKXX		SOLID WIRE		NO3	-		1
6		WTG 31 7BKXX		SOLID WIRE		NO 4	-		1
7									
8									-
9							-		
10		l							

-	V DI ODED	PART NAM	E	PART CODE	STOCK NO.		
Ā	X PLODED SSEMBLY	P. H. BOARD AS	SY.	APSSW086RA			QTY
ţ	REMARKS	PART CODE	PART	, STOCK NUMBER	PART NAME	SPECIFICATIONS SYMBOLIC OR EXPLODEO VIEW NO.	USE
1		MW401CX006			SHOT JAMPER		ļ
2		PSSW086C0X			PRINTED W. BOARD		
3		R025PJ222X			CARBON FILM R.	Q.25% 2.2K OHM 5% R1 R2	ļ
4		SL040307ZN			LEVER SWITCH	S1 S2'	_
5							-
6							-
7			_				-
8			_				├
9			<u> </u>				
10							J

	XPLODED	PART NAM	E PART CODE	STOCK NO.				
1	REMARKS	PART CODE	PART, STOCK NUMBER	PART NAME	SPECIFICATIONS	SYMBOLIC	OR EXPLODED VIEW NO.	Q'TY USED
1		MS54555002		SHIELD		SL1		1
2		PSSWOBBCOX		PRINTED W.BOARD				
3		SPO1 AASO9A		PUSH SWITCH		51		

EXPLODED		PART CODE	STOCK NO			·
REMARKS		PART, STOCK NUMBER		SPECIFICATIONS	SYMBOLIC OR EXPLODED VIEW NO.	USED
1	KT4304*ECX		OHNER'S MANUAL			
2	KW0001238X		WARPANTY CAPD			1

EXPLODED ASSEMBLY	PART NAM	PART CODE	STOCK NO					
REMARKS	PART CODE	PART, STOCK NUMBER	PART NAME	SPECIFICATIONS	SYMB	OLIC OR I	EXPLODED VIEW NO.	QTY USEI
1	CEVDICOALX		FLYT. CAPACITOR		C 5	C6		
2	COMB184KEH		MYLAR CAPACITOR	0.18MED 50V -10. +10%	с.3	C 4		ļ
3	CQMBZ73KTH		MYLAR CAPACITOR	0.027 HFD 50V -10. +10%	cı	C2		-
4	PSTC036C0X		PRINTED W.BOARD					
5	R025PJ123X		CARBON FILM R.	0.25W 12K OHM 5%	R1	R 2		ļ
6	R025PJ162X		CARBON FILM R.	0.25₩ 1.6K DHM 5%	R 3	R4		
7	RVQ4503N02		VR.		VRI			-
В	2720000122		PC.JOINT		JU4			-
9						-		
10								

EXPLODED ASSEMBLY	PART NAM	E PART CODE	STOCK NO.						
REMARKS	PART CODE	PART, STOCK NUMBER	PART NAME	SPECIFICA	ATIONS	SYME	OLIC OR	EXPLODED VIEW NO.	Q'TY USED
1	MH 401C X006		SHOT JAMPER					Ī	2
2	PS AZOZ 2COX		PRINTED W.BOARD						1
3	RD 25PJ 104X		CARBON FILM R.	0.25W 100K 0HM	5%	R 5	R 6		z
4	R025PJ222X		CARBON FILM P.	0.25 2.2K OHM	5\$	R1	P. 2		i
5	RD 25PJ 394X		CARBON FILM R.	0.25W 390K OHM	5%	R 3	R4		2
6	YJD055011Z_		SP OIN JACK			J4			
7	YJ P04 S 01 6 U		4P-PIN JACK			J1	J2		7
В	YJP065 C07U		6P.PIN JACK			J3			
9									
10									

EXPLODED ASSEMBLY	PART NAM		STOCK NO.			
REMARKS		PART, STOCK NUMBER	PART NAME	SPECIFICATIONS	SYMBOLIC OR EXPLODED VIEW NO.	QTY USED
1	APSAB005ED		P.W.BOARD ASSY.			4
2	APSSWOB6R4		P.W.BOARD ASSY.			4
3	APSTC036A0		P.W.BDARO ASSY.			
4	APSZZOZZBA		P.W.BOARD ASSY.			
5						
6						
7						
В						
9						
10		1				

410A

É	XPLODED	PART NAM	ΙĒ	PART CODE	STOCK NO.					
Ā	SSEMBLY	ELFC. ELEME!	NT S	AAB37AESCL1	<u> </u>					
Ė	REMARKS	PART COOE	PART	STOCK NUMBER	PART NAME	SPECIFICATIONS	SYMB	OLIC OR	EXPLOGEO VIEW NO	USEO
1		ACACO35EEA			AC CORD ASSY		AC1			
2		APSS WOBBAA			P.W.BOARD ASSY.			:		
3		APS410A*E1			P.W. BOARD ASSY.					1
4		CEAGDIDALX			ELYT. CAPACITOR	1MED 50V	C 1	C.2		
5		CNST 103MAN			OIL PAPER CAP.		C 3	C 4		1
6		G410A*EA01			WIRES KIT			:		
7		QTA1102XA0			TRANSISTOR		U 3	Q4		
8		OTC2577XAD			TRANSISTOR		91	02		
9		RG2ANJ271B			M-OXIDE FILM R.	2W 270 OHM 5%	R1	R 2		—
10		SR0204109T			ROTARY SWITCH		5.2			
11		TERB 35002Y			PWR.TRANSFORMER		PT1	5/		
12		VM270NB004			BUSHING		ACB1			
13		VX432VL002			C-COVER		221	772		
14		YHF1 P2 001 Z			FUSE HOLDER		FH1	1		
15		YJS035016Z			PHONE JACK		J3			
16		YTD015002U			TERMINAL		J4			
17		YT 5045007U			TERMINAL		JI	J2		,
18		7F8Q13201A			FUSF		Fl			1
19		ZF8032101A			FUSE		F 4	į.		1
20		ZF8Q32201A	<u> </u>		FUSE		F2	F3	F5 F6	4
21		ZM02050K01			METER 7BA7OR		M1	M 2		
22		ZPA148103U			LAMP		LP1	LP2		,

	EXPLODED	PART NAM	_	PART CODE	STOCK NO						
1	REMARKS	PART COOE		AAR37AESCL2 , STOCK NUMBER	PART NAME	SPECIFICATIONS	SYMBO	LIC OR E	XPLOOEO	VIEW NO.	QTY
1		AM41 A ** 01			FSCUTCHEON ASSY		1				1
2		BNHCL 3 ON SN			NUT	M3. S-NI. THIN-TYPE	824				
3		89 P 30 5 50NB			PAN HEAD RIVET		88-1	88-2			
4		BRU2455XAJ				2.4 X 5.5 ALMINUM	B16-1	B16-2		-	
5		BSPB3009NN -				(+)BIT, M3 X 8 S-NI	B20-1	820-2			1
6		BSPR3010NN				(+)B1T, M3 X 10 S-NI	B19-1	B19-2	B19-3	910-4	
7	F	BSPC3006NZ			CEMS SCREW	L+1817, M3 X 6 S-ZNCR		1		i i	
8		BIFT. SU DONE			CEHS SCREE	1410111 H2 A 6 3-ZNCR	B14-1		B14-3	:	1 1
9									B14-7	B14-B	
10	<u> </u>	BSPP 30 10NP			212 11510 552511	(+)BIT, M3 X 10 PLASTIC	B15-1	B15-2	T	<u> </u>	+
11	 					(YIBIT; M3 X TU PLASTIC	B23			-	+
12		BTPB5010TB			BINO HD SCREW		B12-1	812-2	812-3	B12-4	+
13	-	BTPL 3008BB	-			(+)BIT. M3 X B S-BLACK	87-1	87-2	87-3	87-4	1-4
14	├	BTPP300BAB			PAN TAP SCREW	(+)81T. M3 X 8 S-BLACK	830-1	B30-2	830-3	B30-4	⊢ -1
15							89-1	89-2	B9-3	89-4	
16							89-5	B9-6	B9-7	-	-
17	ļ	8TPS30OBTZ			FLAT TAP SCREW	(+)BIT, M3 X B S-ZNCR (TAP TITE)	B17-1	817-2	817-3	 	3
⊢		BTP#3006BZ			BRAS. TAP SCREW	(+)BIT, M3 X 6 S-ZNCR	B36-1	B36-2			1
18		BTPW300BAZ			BRAS. TAP SCREW	(+)BIT. M3 X 8 S-ZNCR	B18	B3-1	B3-2	 	3
19		8TPW300888			BRAS. TAP SCREW	(+)BIT, M3 X B S-BLACK	B5-1	85-2			2
20		BTPW300BBJ			BRAS. TAP SCREW		84-1	B4-2			2
21	<u> </u>	BTP#3008BZ			BRAS. TAP SCREW	(+)BIT, M3 X B S-ZNCR	B1-1~8		810-1-4		_23

EXPLODED ASSEMBLY	PART NAM	- 1.2	STOCK NO.						
REMARKS		PART, STOCK NUMBER	PART NAME	SPECIFICATIONS	SYM80	LIC OR E	XPLODED	VIEW NO.	Q'TY USED
1					810-5	810-6	B2-1	B2-2	
2					B26-1	B26-2	B31-1	831-2	ļ
3					R32	835~1	B35-2		
4	BTPW3012BZ		BRAS. TAP SCREW	(+)BIT. M3 X 12 S-ZNCR	811-1	B11-2	811-3	811-4	. 4
5	BWM3 O A OBSN		FLAT L. WASHER	FLAT LARGE. 3 M/M S-NI	829	833		-	2
6	RWM30705SN		FLAT L. WASHER	FLAT LARGE, 3 M/M S-N1	B34-1	B 34-2			7
7	BWM50CORSB		FLAT L. WASHER	FLAT LARGE, 5 M/M S-BLACK	B1 3-1	B13-2	B13-3	813-4	4
8	BWT 30 602BN		GNO. WASHER	3 M/M BS-NI	B25				1
9	M89725F070		REAR PANEL		5			ļ	1
10	MB97251007		FRONT PANEL		2				1
11	4C 371S Z002		BRACKET		15-1	15-2			2
12	ML 331 S S001		TERMINAL		2.7				1
13	ML 7655L003		SHIFLD		25	<u> </u>	<u> </u>	<u> </u>	1
14	MN276X A020		KNOB		8-1	8-2	8-3	8-4	5
15	ļ				8-5			<u> </u>	
16	MN386X4024		KNOB		9			<u> </u>	1
17	MS 976 SL001		BOTTOM PLATE		7				1
18	MU7525L001		SIDE . PLATE		4				1
19	MU764AD101		HFAT SINK		14				1
20	MU765SL001		CHASSIS		3			<u> </u>	1
21	MU8975 X022		COVER		6		ļ		1
22	MVL635GF01		SER.NO. PLATE		12	<u> </u>		ļ	1
23	VR 5324W001		LAMP HOUSE		18-1	18-2			2

E) AS	XPLODED SSEMBLY	PART NAM MECH. ELEMEN	E PART CODE	STOCK NO.						QTY
I E M	REMARKS	PART CODE	PART, STOCK NUMBER	PART NAME	SPECIFICATIONS	SYMBOLIC OR EXPLODED VIEW NO				
1		VM165RX103		HOLDER		19-1	19-2			i
2		VM280E 8001		FOOT		17-1	17-2	17-3	17-4	<u> </u>
3		VN2205 X001		POW KNOB		11	<u> </u>			بــــاــــــــــــــــــــــــــــــــ
4		VN3605X001		KNOB		10-1	10-2	10-3	10-4	1
5		VS 227R 8001		SHEET		13-1	13-2	13-3	13-4	
6		VS325VN001		BARPIER		29				<u> </u>
7		VS417NN003		CLAMPER.		28				1
8		VVL 311GE 60		LABEL		24				

EXPLODED ASSEMBLY	FSCUTCHEON A	E PART CODE ASSY AM4104**01	STOCK NO.					
REMARKS	PART CODE	PART, STOCK NUMBER	PART NAME	SPECIFICATIONS	SYMBOLIC OR EXPLODED VIEW		LODED VIEW NO.	USED
1	ME97FAA105		FSCUTCHFON .		1 - A			
2	VK 1325 X704		BUSH LEVER		1-8-1	1-B-2		
3	VK 1325 X007		RUSH		1-F-1	1-E-2		
4	VK1335X001		BUSH POWER		1-c			
5	VK1655X204		METER FRAME		1-0-1	1-D-2		

E	XPLODED SSEMBLY	PART NAM	FRS AAR37AESCL3	STOCK NO.				
1 5	REMARKS	PART CODE	PART, STOCK NUMBER	PART NAME	SPECIFICATIONS	SYMBOLIC OR E	XPLODED VIEW NO.	QTY USED
1		KT410AF+CX		OWNER'S MANUAL				1
2		KW0001238X		WARRANTY CARD				
3								

EXPLODED	PART NAM	1	STOCK NO.								
REMARKS		PART, STOCK NUMBER	PART NAME		SPECIFIC	ATIONS	SYME	OLIC DR	EXPLODED	VIEW NO.	QT
1	CCFR121KOT	THE IT OF THE MEMBER	CERAMIC CAP.	120 PF	50V	-10, +10% St	C13	C 14			03.
2	CCF8221K0T		CERAMIC CAP.	220PF	50 V	-10, +10% SL	C1_	C2			
3	CCGBIDODOT		CERAMIC CAP.	SL 10PF	50 V	-0.5, +0.5PF	C 2 5	C 26	C29	C30	
4	C.C.GBB 20K QT		CERAMIC CAP.	R2PF_	50 <u>y</u>	-10, +10% SL	C19	C20			<u> </u>
s	CEAB221ALX		FLYT. CAPACITOR	220MF0	6.30		C 5 1	C52			1
6	CEAOLOONLX		FLYT. CAPACITOR				C 5 7	C 58			_
7	CEAD2214LX		FLYT. CAPACITOR	220 MF0	167		C67	C68	_		<u> </u>
в	CEAE470ALX		FLYT. CAPACITOR	47MF0	25V		C 6 2				_
9	CEAF470ALX		ELYT. CAPACITOR	47MF0	35 V		C33	C 34		- 	↓_
10	CEAGIDIALX		ELYT. CAPACITOR	LOOMED	50 V		C 6 1				-
11	CE01U68201		FLYT. CAP				C65	C66		_	┼
12	CEVCI OLALX		ELYT. CAPACITOR				C 47	C 48	-	-	
13	CEVC470ALX		FLYT. CAPACITOR				<u> </u>	C12	-		\vdash
14	CEND1004LX		ELYT. CAPACITOR				C59	C60			┼
15	CEVEAR TALX		FLYT. CAPACITOR				C43	C 4 4	C45	C46	\vdash
16	CEVGO 1 OAL X		FLYT. CAPACITOR				C10	C17	C18	<u>C3</u>	-
17			•				C31	C32	C4	C 9	╁
18	CEVG100ALX		ELYT. CAPACITOR				C21	C 22		-	\vdash
19	CEVG2R 2ALX		ELYT, CAPACITOR				C63	-	-		┼
20	CKOE LO 3PEM		CERAMIC CAP.	D.OlMFD	500V	-0, +103% F	C64		-	<u> </u>	-
21 22	CK FB2237FT		CERAMIC CAP.	_0.022MFD	50 V	-20, +8)% F	C39	C40	C41	C42	-
23	CKF8473ZFT		CERAMIC CAP.	0.047MFD	50V	-20, +80% F	£71	C72			\vdash
43	CK G8 56 IK RT	L	CERAMIC CAP.	560 FF	500	-10, +10% B	0.70				1_

EXPLODED	PART NAM	E PART CODE	STOCK NO.						
ASSEMBLY	P.W.ROARO AS	SY. APSABOOSGD	<u> </u>						QTY
REMARKS	PART CDDE	PART, STOCK NUMBER	PART NAME	SPECIFICATIONS	SYME	SOLIC DR	EXPLDDE	D VIEW NO.	USE
1	COMR122JEH		MYLAR CAPACITOR	1200PF 50V -5, +5%	C7	С8			<u> </u>
2	CQMB392JFH		MYLAR CAPACITOR	3900PF 50V -5. +5%	C5	C 6			ļ
3	CQ48473KTH		MYLAR CAPACITOR	0.047MFD 50V -13, +13%	C55	C56			<u> </u>
4	COMR562KTH		MYLAR CAPACITOR	5600PF 50V -10. +10%	C 5 3	C54			
5	COMR563KTH		MYLAR CAPACITOR	0.056MFD 50V -10. +13%	C15_	C 16			<u> </u>
6	C040563KEM		MYLAR CAPACITOR		C49	C50			
7	LA 3LF 1 024A		CHOKE COIL		Ll	L2			
8	MW 20 1 R SO 0 1		TERMINAL						2
9	MW401 CX006		SHOT JAMPER						2
10	PSABOOSCOX		PRINTED W. BOARD						<u> </u>
11	PS430A**CX		PRINTED W.ROARD						
12	ODG1N60XXT		GERMANTUM DIODE	ND-RANK	021	022	D23	D24	L
13	ODSGP 20GXG		SILICON DIDOE		n33	034	D35	D36	
14	DDSN444BXZ		SILICON DIGOE	1N4448 VRM=100V ND-RANK	D13	014	015	Ð16	1
15					017	D18	D19	D 20	<u> </u>
16					D25	026	D2 9	D30	
17					D37	D 5	D6	07	
18					08				
19	QD SRA1 ZXXD		SILICON DIODE	RA1Z NO-RANK	010	D11	D12	D9	
20	OOZRD15FCA_		ZENER DIDDE	RD15E(C) VZ=14.7-16.5 C-RANK	D3 1	D32			
21	OD ZRD1 8E CA		ZENER DIDDE	RD18FC VZ=18-2D.3 C-3 AN<	028				
22	QQM065518N		ı.c.		V1				
23	OT 4072 0XBN		TRANSISTOR	25A720 Q, R-RANK	013	914			Ι.

EXPLODED	PART NAM		STOCK NO.						
REMARKS	PART CODE	PART, STOCK NUMBER	PART NAME	SPECIFICATIONS	SYMB	OLIC OR I	EXPLODEO	VIEW NO.	Q'T US
1	QTAN777XAN		TRANSISTOR	25A777 R.O-RANK	Q10	09			
2	OTAO798XFE		TRANSISTOR	25A798 F.G-RANK BREAK VILTAGE=70V	01	02		<u> </u>	┺
	OTC131BXDN		TRANSISTOR	25C1318 Q.R-PANK	011	012			\perp
1	OTC 1505XBN		TRANSISTOR	25C15Q9 Q.R-RANK	07	08		<u> </u>	-
5	QTC1685X4N		TRANSISTOR	2SC1685 Q.R-RANK	91.5	016	03	04	\vdash
6	QTC1BB5XAN	i	TRANSISTOR	2SC1885 R.S-PANK	05	Q6			\perp
7	QVESTV3HXO		VARISTOR	STY-3H 0.Y-RANK (VF:1.60V-1.74V)	D3	D4			╀
8	RU525 P 7 1 4 5 2 1 4 3		CARBON FILM R.	0.25H 1K OHM 5%	R15	R16	R25	R26	┼
9	90250J104X		CARBON FILM R.	0.25W 100K OHM 5%	R1	R2	R3	R4	+
0					R8.6		<u> </u>	<u> </u>	╀
I	R025PJ122X		CAPBON FILM R.	0.25W 1.2K OHM 5%	R73	R74			+
2	R025PJ132X		CARBON FILM R.	0.25W 1.3K OHM 5%	R11	R12			+
3	RO25PJI33X		CARBON FILM R.	0.25W 13K OHM 5%	R21	R22			\perp
4	R025PJ182X	-	CARBON FILM R.	0.25W 1.8K OHM 5%	R81	R 82		-	\perp
15	RO25PJ1B3X		CARBON FILM R.	0.25H 18K OHM 5%	R29	R30	-	 	\vdash
16	R0259J220X		CARBON FILM R.	0.25W 22 OHM 5%	R88		-		+
17	RD25PJ272X		CARBON FILM R.	0.25W 2.2K OHM 5%	R17	R18	R84	<u> </u>	+
18	R0250J223X		CARBON FILM R.	0.25W 22K 0HM 5%	R93	R94	R95	R96	+
19	R П 2 5 Р Ј 2 2 4 Х		CARBON FILM'R.	0.25W 220K OHM 5%	R13	R14			+
20	R025PJ271X		CARBON FILM R.	0.25W 270 DHM 5%	R69	R70	R75	R76	+
21					R97	R 98			+
22	R N 25P J 272X		CAPBON FILM R.	0.25W 2.7K OHM 5%	R79	R80		 -	oppi
23	R025P.1332X		CARBON FILM R.	0.25W 3.3K OHM 5%	R61	R 62	R63	R64	

EXPLODED	PART NAM		STOCK NO.						
REMARKS		PART, STOCK NUMBER	PART NAME	SPECIFICATIONS	SYME	BOLIC OR	EX PLODE	O VIEW NO	Q'T USI
	7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7	1.11.11.01.00.01.01.01.01.01.01.01.01.01			R71	R72			
2	RD25PJ333X		CARBON FILM R.	0.25W 33K OHM 5%	R85				_
3	9 N 2 5 P J 3 9 2 X		CARBON FILM R.	0.25W 3.9K OHM 5%	R31	R32	R33	R34	\perp
	P025PJ471X		CARBON FILM R.	0.25W 470 OHM 5%	R91	R92			
S	R025PJ561X		CARBON FILM R.	0.25W 560 NHM 5%	R 5	R6	_		+
6	R025PJ623X		CARBON FILM R.	0.25W 62K OHM 5%	RIO	R9			+-
7	R025PJ681X		CARBON FILM R.	0.25W 680 OHM 5%	R19	R20			+
9	RD 2 5PJ 683 X		CARBON FILM R.	0.25H 68K OHM 5%	R23	P 24			+-
0	RO25PJ754X		CARBON FILM R.	0.25W 750K OHM 5%	R7	R8			十
11	R025TJ270X		CAPBON FILM R.	0.25W 27 OHM 5%	R 47	R 48			十
2	R025TJ331X		CAPBON FILM R.	0.25W 330 OHM 5%	R57	R58 R28	R 59	R60	\top
3	R025TJ5P6X		CARBON FILM R.	0.25W 5.6 OHM 5%	R37	R38			1
4	RD25TJB20X		CARBON FILM R.	0.25W 82 OHM 5%	R39	R40			T
.5	R025VJ 101X		CARBON FILM R.	0.25W 100 OHM 5%	R65	R66			
6	RF02SKR478		WIRE WOUND R.	2W 0.47 OHM 10%	R53	R54	R55	R56	
7	RGHANJ 151B		M-OXIDE FILM R.	1/2 W 150 OHM 5%	R49	R 50	R51	R 52	\perp
.8	R GHANJ 1828		M-OXIDE FILM R.	1/2W 1.8K OHM 5%	R77	R78			_
9	RGHANJ472B		M-OXIOF FILM R.	1/2W 4.7K OHM 5%	R41	R42	R43	R44	\perp
20	RGHARJ 122B		M-OXIDE FILM R.	and the state of t	R87	-		+	\vdash
21	RG1 ARJI22 B		M-OXIGE FILM R.		RB 9	R90			+
22	RPJNR33102		SEMI-FIXED VR.		- KAT-	RV2		-	+
23	RV0A254805_		VR .		VR2				1

	XPLODED SSEMBLY	PART NAM	E PART CODE	STOCK NO.					
į	REMARKS	PART CODE	PART, STOCK NUMBER	PART NAME	SPECIFICATIONS	SYMBO	LIC OR EXP	LODED VIEW NO.	Q'TY USED
1		MW 401 C X006		SHOT JAMPER					
2		PSSWOR6COX		PRINTED W.BOARD					1
3		RD 25PJ 272X		CARBON FILM R.	0.25W 2.2K DHM 5%	R1	R2		
4		S1.040307ZN		LEVER SWITCH		S1	SZ		

	XPLODED SSEMBLY	PART NAM	SSY . APSSW0384A	STOCK NO.				
HW.M	REMARKS	PART CODE	PART, STOCK NUMBER	PART NAME	SPECIFICATIONS	SYMBOL	IC OR EXPLODED VIEW NO.	QTY USED
1		MS 5455 5002		SH1FLD		S L 1		
2		PSSW088C0X		PRINTED W-BOARD				<u> </u>
3		SPOLA A SOSA		PUSH SWETCH		51		سل

EXPLODED	PART NAMI		STOCK NO.					
ASSEMBLY		PART, STOCK NUMBER	PART NAME	SPECIFICATIONS	SYME	OLIC OR E	XPLODED VIEW NO.	Q'TY USED
1	CEVO100ALX		FLYT. CAPACITOR		c <u>5</u>	C6		2
2	CQMB184KFH		MYLAR CAPACITOR	0.18MED 50V -10, +10%	C3	C4		2
3	CQMB273KTH		MYLAR CAPACITOR	0.027FFD 50V -10. +10%	<u> </u>	cz		2
4	PSTC036C0X		PRINTED W. BOARD					1
5	RD25PJ123X		CARBON FILM R.	0.25W 12K 0HM 5%	R1	R2	<u> </u>	
6	RD25PJ 162X		CARBON FILM R.	0.25W 1.6K OHM 5%	R3	R 4		2
7	RV 0 A 5 O 3NO 2		yR.		VR 1			
8	2220000122		PC.JOINT		JU4	-		1
9								1
10								ot

	WEL ODED	PART NAM	IE PART CODE	STOCK NO.						
Ā	XPLODED SSEMBLY		SY. APSABOSED							
HH H	REMARKS	PART CODE	PART, STOCK NUMBER	PART NAME	SPECIFICATIONS	SYMBO	DLIC OR E	XPLODED	VIEW NO.	Q'TY USED
1		RVQA254X04		VR.		VRI				ر ا
2		RVQA503N02		VR.		VR3	İ			
3		RX 1 AR J5º6R		M-OXIDE FILM R.	**	R57	R68	<u> </u>		2
4		SH020304ZB		SLIDE ROTARY SW		S 1				1
5		SL020226ZN		LEVER SWITCH		52	S3			, 2
6		VVL2116F55		LABFL			1			4
7		M203161111		SHIFLOED WIRE		N06				,
8		WTG014EFXX		SOLIO WIRE		NOIO			ļ	1
9		WTG51 OEF XX		SOLID WIRE		NO [1			<u> </u>	11
10		WTG608EFXX		SOLID WIRE		NOIZ				i
11		WTG710FFXX		SOLID WIRE		NO 13		<u> </u>		1
12		WTHOI3FL XX		SOLID WIRE		NO16	NO 17			2
13		WTH024ELXX		SOLIO WIRE		NO18				1_1
14		WTJ018FMXX		SOLIO WIRE		N015		ļ		1
15		WT M909 EFXX		SOLID WIRE		N09			<u> </u>	1
16		WTM910FFXX		SOLID WIRE		NO 8		ļ		
17		WWF217JXJJ		SHIELOED WIRE		104				<u> </u>
18		WWF413JXJJ		SHIFLDED WIRE	/_ IS*/MAY	NO2		<u> </u>		1
19		WME218JXJJ		SHIELDEO WIRE		N03				<u></u> i
20		WWF618JXJJ		SHIELDED WIRE		NO4_	-			
21		YHF 0P0 001 Z		FUSE HOLDER		FH2-1	FH2-2	FH3-1	FH3-2	10
22						FH4-1	FH4-2	FH5-1	FH5-2	
23						FH6-1	FH6-2			

	XPLODED	PART NAME	E PART CODE	STOCK NO.				
14	SSEMBLY	P. W. BOARD AS	SY. APSZZOZZBA					
162	REMARKS	PART CODE	PART, STOCK NUMBER	PART NAME	SPECIFICATIONS	SYMBO	OLIC OR EXPLODED VIEW NO	USED
1		MW401 CX006		SHOT JAMPER				7
2		PSAZO22COX		PRINTED W. BOARD				1
3		R025PJ104X		CARBON FILM R.	0.25W 100K DHM 5%	R5	R6	2
4		RD25PJ222X		CARBON FILM R.	0.25% 2.2K DHM 5%	R1	RZ	2
5		RD25PJ 394X		CARBON FILM R.	0.25W 390K OHM 5%	R3	R4	2
6		YJ005 S011 Z		5P DIN JACK		J4		1
7		YJP045016U		4P-PIN JACK		J1	J2	2
B		YJP065007U		6P.PIN JACK		J3		1

EXPLODED	PART NAM	E PART CODE SY . APS410 A*E1	STOCK NO.				
REMARKS	PART CODE		PART NAME	SPECIFICATIONS	SYMBOLIC OR	EXPLODED VIEW NO.	QTY
1	APS ABOOS GD		P.W.BOARD ASSY.				
2	APSSWOR6 BA		P.W.BOARD ASSY.				اـــــــــــــــــــــــــــــــــــــ
3	APSTC036AD		P.W.BOARD ASSY.				i
4	APS720228A		P.W.BOARD ASSY.				,
5							
6							
7							
8							
9							
10							
11							
12							

EXPLODED ASSEMBLY	PART NAM	E PART CODE	STOCK NO.					
REMARKS		PART, STOCK NUMBER	PART NAME	SPECIFICATIONS	SYME	OLIC OR E	XPLODED VIEW NO.	QTY USE D
1	MW401 C X006		SHOT JAMPER					2
2	PSAZOZZEOX		PRINTED W. BOARD					
3	RD25PJ104X		CARRON FILM R.	0.25W 100K UHM 5%	P 5	R6		1
4	RD25PJ2?2X	····	CARRON FILM R.	0.25W 2.2K 04M 5%	RI	R2		2
5	R025PJ 394X		CARBUN FILM R.	0.25W 390K 0HM 5%	R3	R 4		Z
6	YJ005 501 1 7		SP DIN JACK		J4			1
7	YJP045 016U		4P-PIN JACK		Jı	J2		2
8	YJP0650071J		6P.PIN JACK		J٦			1

EXPLODED	PART NAM		STOCK NO.			
REMARKS	1	PART, STOCK NUMBER	PART NAME	SPECIFICATIONS	SYMBOLIC OR EXPLODED VIEW NO.	QTY US:10
1	APSABO05GD		P. W. BOARD ASSY.			
2	APSSW086BA		PAWARDARD ASSY.			
3	APSTC036AD		P.W.BUARD ASSY.			1
1	APS ZZOZZBA		P.W.BOARD ASSY.			
5						
6						
7						
8						<u> </u>
-	<u> </u>					<u> </u>
10						
12	<u> </u>		<u> </u>			├~
<u>"</u>		<u> </u>				l



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